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Indian Standard

INLAND VESSELS — DRAUGHT SCALE — SPECIFICATION

ICS 47.060

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

July 1997

Price Group 3

Inland and Harbour Craft Sectional Committee, TED 18

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Inland and Harbour Craft Sectional Committee, had been approved by the Transport Engineering Division Council.

This Indian Standard lays down the requirements for draught scales for inland vessels. This standard gives requirements for two types of the scales depending upon their components. While preparing this standard assistance has been derived from ISO 7606 : 1988 'Shipbuilding — Inland navigation vessels — Draught scales', issued by the International Organization for Standardization (ISO).

Indian Standard

INLAND VESSELS — DRAUGHT SCALE — SPECIFICATION

1 SCOPE

1.1 This Standard lays down the requirements for draught scales for inland vessels.

1.2 The location of draught scales for vessels up to a length of 40 m (LBP) shall be at fore and aft ends. For vessel more than 40 m, the location shall be at fore, middle and aft positions.

2 REFERENCE

IS 9609 (Part 1) : 1983/ISO 3098-1-1974 'Lettering on technical drawings : Part 1 English lettering (*first revision*)' is a necessary adjunct to this standard.

3 TYPES

3.1 The draught scales shall be of following two types:

Type 1 — determining the draught by marks and digits, and

Type 2 — determining the draught by digits.

4 DIMENSIONS

4.1 The dimensions of the draught scales shall be as given in Fig. 1, 2 and 3. The dimension '*b*' and '*h*' in Fig. 3 shall conform to the ratio specified in Table 1, or Table 2 of IS 9609 (Part 1).

4.2 Measurement Base

The lower edge of the keel (in certain cases, the extended line of lower edge of keel) or of the hull shall be taken as the measurement base.

Draught scale shall be marked both by decimetres and every two decimetres. Each odd (or each even) decimetre shall be numbered.

4.3 Dimensions of Signs and Digits

Basic dimensions of signs and digits shall be in compliance with those indicated in Fig. 1 and 2. The true dimensions of signs and digits shall be determined based on plans or else signs and digits shall be placed directly on the shell-plating in compliance with their projection from a template.

NOTE — The dimensions of signs and digits and their spacing indicated in Fig. 1 and 2 are the dimensions of their projection on the centreline plane.

Table 1 Indication Methods of Signs and Digits

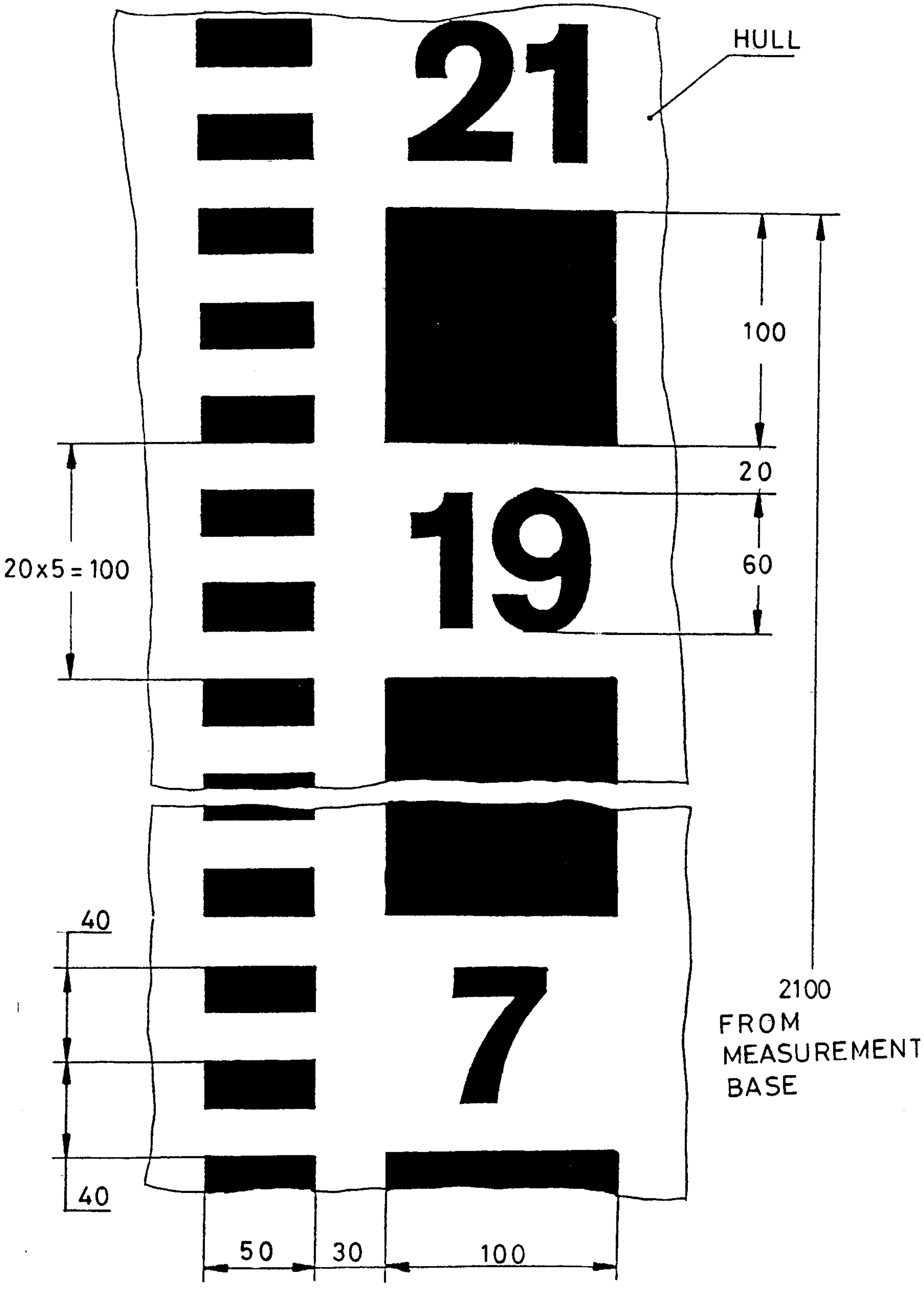
(*Clause* 4.1)

Code	Indication Method
01	Signs and digits are cut from sheet steel and then fixed to the shell-plating by electric welding.
02	Signs and digits are cut out in a steel plate which is then welded to the shell-plating.
03	Signs and digits are formed by built-up electric welding on the shell-plating.
04	Signs and digits are marked by beads welded along their inner and outer contours.
05	Signs and digits on vessels with a steel hull are made in the form of grooves in the shell-plating and painted.
06	Signs and digits on vessels with a metal hull are made by centre punching and painting.
07	Signs and digits on vessels with a wooden hull are made by cutting out and painting, or by raised signs and digits fixed to hull, or by painting only.
08	Signs and digits on vessels with a plastic hull are made of plastic and glued to the shell-plating.
09	Signs and digits are made by printing on an adhesive tape glued to the shell-plating.

NOTES

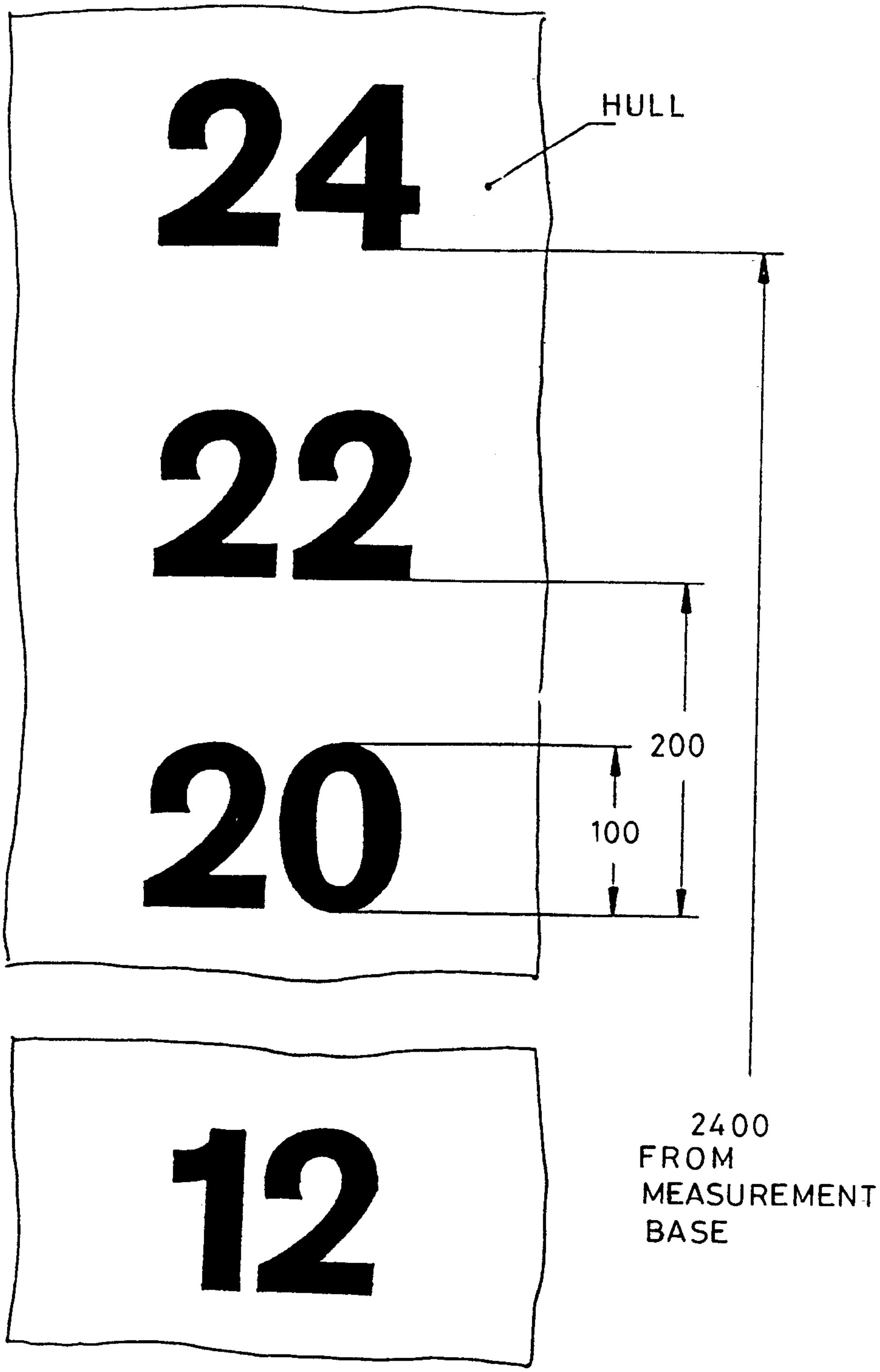
1 The methods 05 and 07 are only allowed if the shell-plating at that place is reinforced to at least the same depth of groove which in any case shall not be more than 50 percent of the thickness of shell-plating.

2 The methods 05 and 06 shall be applicable to plates with a thickness of 8 mm and above. The depth of groove shall not exceed 1 mm.



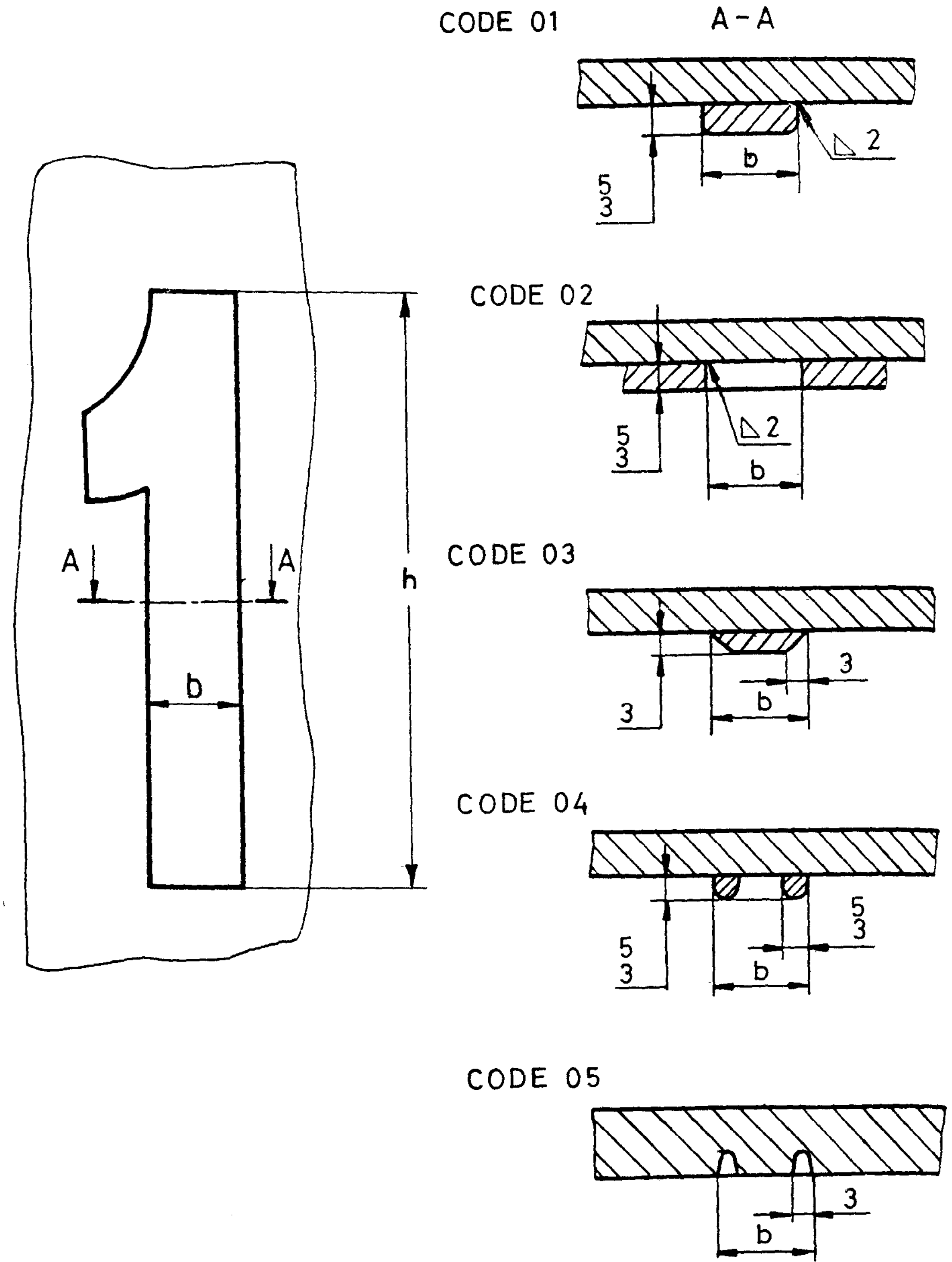
All dimensions in millimetres.

FIG. 1 TYPE 1 DRAUGHT SCALE



All dimensions in millimetres.

FIG. 2 TYPE 2 DRAUGHT SCALE



All dimensions in millimetres.

Fig. 3 Examples of Signs and Digits Indication

4.4 Location

Draught scales are situated on the vessels hull depending on the vessel length, its draught and the navigation area.

Vertically, the draught scales shall be located between 100 to 300 mm above the plane of maximum draught and 0 to 300 mm below the plane of light draught, taking account of the allowable trim; draught scales, where not contiguous at the stern, shall have sufficient overlap.

Horizontally, the draught scales shall be located on the stern and sternpost. Where no sternpost is fitted, such draught scales shall be located at or near the stern.

4.5 Dimensional Accuracy

The dimensional accuracy of signs and digits from the lower edge of the keel up to their lower edge shall be:

a) ± 2 mm for vessels of length between perpendiculars less than 50 m, and

b) ± 3 mm for vessels of length between perpendiculars equal to or more than 50 m.

4.6 Dimensional Tolerance

The tolerance on the height of signs and digits shall be ± 1 mm.

5 INDICATION METHOD

5.1 The indication methods of signs and digits shall be as given in Table 1. Example of some of the methods are given in Fig. 3.

6 PAINTING

6.1 The colour of signs and digits shall be in contrast to the background (for example, black on a light background, white or yellow on a dark background, red on a white background, etc).

7 DESIGNATION

7.1 Draught scales shall be designated by the following indications, in order:

a) Name, draught scale;

b) Reference to this Indian Standard;

c) Type; and

d) Indication method code.

Example:

A draught scale determining the draught by digits (Type 2) made by built-up electric welding on the shell-plating (Code 03) shall be designated as follows:

Draught scale IS 14449-2-03

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